# Estimated Bulk Sanitary Sewer and Treatment Rates for City of Reading Wastewater Treatment Plant Based on the 2012 Capital Improvements Program ("2012 CIP")

# Date Estimated: July 19, 2012

The data presented in the Tables below represent the City's best estimate and are subject to change based on fluctuations in flow, operational costs and requirements for capital improvements. The rates were recently revised because the results of the SSM Group October 2011 Special Study ("Special Study") justified reducing the required treatment capacity of the Wastewater Treatment Plant from 28.5 MGD to 20.5 MGD, resulting in significantly less construction and associated costs.

Table 1: Estimated Annual Total Charge Based on 2012 CIP

	Municipality (Estimated Reserved Capacity)	2013	2014	2015	2016	2017	2018	2019	2020	2021
1	Antietam Valley Municipal Authority (86,558 gal/day)	\$76,505	\$92,737	\$111,726	\$147,433	\$151,934	\$177,182	\$180,281	\$177,966	\$180,516
2	Bern Township (170,000 gal/day)	\$166,502	\$198,785	\$215,545	\$285,575	\$294,316	\$343,717	\$349,684	\$340,814	\$345,584
3	Cumru Township (1,875,832 gal/day)	\$1,536,204	\$1,884,951	\$1,932,161	\$2,693,713	\$2,778,645	\$3,302,526	\$3,354,530	\$3,414,451	\$3,457,617
4	Kenhorst Borough (266,190 gal/day)	\$312,279	\$364,108	\$367,136	\$477,533	\$491,985	\$570,746	\$581,009	\$565,964	\$574,318
5	Laureldale Borough (696,402 gal/day)	\$1,113,042	\$1,255,980	\$1,243,276	\$1,539,183	\$1,584,290	\$1,803,794	\$1,839,413	\$1,783,947	\$1,814,103
6	Mohnton Borough (46,742 gal/day)	\$69,822	\$79,295	\$83,000	\$102,850	\$105,866	\$120,577	\$122,954	\$119,718	\$121,741
7	Muhlenberg Township (6,011,146 gal/day)	\$4,029,583	\$5,124,988	\$5,264,233	\$7,681,401	\$7,929,629	\$9,564,309	\$9,702,197	\$10,255,067	\$10,374,606
8	City of Reading (9,541,933 gal/day)	\$10,740,201	\$12,586,793	\$12,761,197	\$16,708,533	\$17,216,264	\$20,020,600	\$20,376,088	\$20,408,991	\$20,711,774
9	Robeson Township (44,000 gal/day)	\$16,647	\$24,346	\$25,251	\$42,611	\$44,086	\$55,419	\$56,017	\$56,528	\$56,896
10	Shillington Borough (70,556 gal/day)	\$77,271	\$90,872	\$90,461	\$119,551	\$123,204	\$143,755	\$146,263	\$143,039	\$145,063
11	Spring Township (1,542,600 gal/day)	\$2,051,329	\$2,357,674	\$2,408,243	\$3,055,042	\$3,146,034	\$3,615,815	\$3,683,991	\$3,722,808	\$3,783,343
12	Wyomissing Borough (65,074 gal/day)	\$100,817	\$114,095	\$115,751	\$143,391	\$147,595	\$168,086	\$171,401	\$169,250	\$172,138

Table 2: Comparison to 2011 CIP Rate Projections (circulated in March 2012) to the 2012 CIP Rate Projections

		2013	2014	2015	2016	2017	2018	2019	2020	2021
13	Antietam Valley Municipal Authority	-\$28,845	-\$22,852	-\$56,867	-\$27,248	-\$46,946	-\$25,801	-\$27,111	-\$28,119	-\$29,078
14	Bern Township	-\$61,593	-\$47,870	-\$110,945	-\$52,705	-\$91,319	-\$49,794	-\$52,305	-\$53,217	-\$55,016
15	Cumru Township	-\$588,089	-\$472,842	-\$1,138,924	-\$488,417	-\$906,191	-\$448,564	-\$469,119	-\$507,436	-\$523,897
16	Kenhorst Borough	-\$112,125	-\$84,439	-\$179,383	-\$88,711	-\$149,726	-\$84,667	-\$89,075	-\$90,775	-\$93,908
17	Laureldale Borough	-\$383,373	-\$275,360	-\$523,342	-\$291,108	-\$456,003	-\$285,432	-\$301,500	-\$307,376	-\$318,545
18	Mohnton Borough	-\$24,246	-\$17,584	-\$35,041	-\$19,445	-\$30,505	-\$19,057	-\$20,128	-\$20,626	-\$21,376
19	Muhlenberg Township	-\$1,612,915	-\$1,350,952	-\$3,472,468	-\$1,371,564	-\$2,693,057	-\$1,227,773	-\$1,278,767	-\$1,467,856	-\$1,513,882
20	City of Reading	-\$3,881,245	-\$2,943,364	-\$6,353,923	-\$3,096,611	-\$5,276,357	-\$2,944,736	-\$3,096,339	-\$3,281,892	-\$3,395,408
21	Robeson Township	-\$7,899	-\$7,525	-\$22,879	-\$7,267	-\$16,693	-\$5,984	-\$6,145	-\$6,473	-\$6,628
22	Shillington Borough	-\$28,047	-\$21,370	-\$46,238	-\$22,083	-\$38,128	-\$20,893	-\$21,951	-\$22,453	-\$23,216
23	Spring Township	-\$723,258	-\$533,776	-\$1,093,181	-\$572,668	-\$931,487	-\$554,100	-\$584,146	-\$628,138	-\$650,636
24	Wyomissing Borough	-\$34,854	-\$25,144	-\$48,822	-\$27,113	-\$42,514	-\$26,576	-\$28,070	-\$29,310	-\$30,379
	Total Savings	-\$7,486,490	-\$5,803,077	-\$13,082,012	-\$6,064,940	-\$10,678,926	-\$5,693,377	-\$5,974,657	-\$6,443,670	-\$6,661,969

#### Table 3: WWTP Estimated Costs based on 2012 CIP

		2013	2014	2015	2016	2017	2018	2019	2020	2021
25	Operational Treatment Costs	\$15,264,278	\$15,643,007	\$16,033,097	\$16,434,890	\$16,848,736	\$17,611,240	\$18,108,472	\$18,622,065	\$19,131,664
26	Operational Transportation Costs	\$2,081,492	\$2,133,137	\$2,186,331	\$2,241,121	\$2,297,555	\$2,401,533	\$2,469,337	\$2,539,372	\$2,608,863
27	Annual Debt Service	\$2,675,000	\$5,815,000	\$5,815,000	\$13,017,000	\$13,514,000	\$18,065,000	\$18,167,000	\$18,177,000	\$18,177,000
28	Annual Infrastructure Contingency Fund Charge	\$267,500	\$581,500	\$581,500	\$1,301,700	\$1,351,400	\$1,806,500	\$1,816,700	\$1,817,700	\$1,817,700
29	Total Revenue Requirements	\$20,288,271	\$24,172,644	\$24,615,928	\$32,994,711	\$34,011,691	\$39,884,272	\$40,561,509	\$41,156,137	\$41,735,228

The \$3,000,000 Impact Transfer is included as an operational expense; the total O&M costs of operating the Wastewater System (i.e., the combined O&M costs of the WWTP and Sewer System) were allocated with 88% designated to the Treatment Rate and 12% to the Transportation Rate based on historical trends.

The Annual Debt Service was estimated based on the revised 2012 Capital Improvement Program with a 20.5 MGD Wastewater Treatment Plant with revenue bonds procured at 5.4% interest and a \$10 Million low interest loan from Pennvest.

## Table 4: Estimated Rates Based on 2012 CIP

		2013	2014	2015	2016	2017	2018	2019	2020	2021	
30	Treatment Unit Rate	\$206.11	\$211.22	\$208.48	\$213.70	\$219.09	\$229.00	\$235.47	\$223.98	\$230.11	
31	Transportation Unit Rate	\$30.17	\$30.92	\$30.53	\$31.29	\$32.08	\$33.53	\$34.48	\$32.77	\$33.67	
	Annual Debt Service Charge										
32	(per 1,000 gallons of Reserved Capacity)	\$131.02	\$284.81	\$284.81	\$637.56	\$661.90	\$884.80	\$889.80	\$890.29	\$890.29	
	Annual Infrastructure Contingency Charge										
33	(per 1,000 gallons of Reserved Capacity)	\$13.10	\$28.48	\$28.48	\$63.76	\$66.19	\$88.48	\$88.98	\$89.03	\$89.03	
	The EDUs from Kenhorst and Robeson are not included in the calculation of the Transportation Unit Rate and Cumru uses approximately 37.77% of its Treatment EDUs for Transportation.										

The Annual Debt Service Charge is estimated based on a total reserved capacity of 20,417,033 gallons per day

## Table 5: EDU Projections

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		2013	2014	2015	2016	2017	2018	2019	2020	2021
34	Antietam Valley Municipal Authority	271	271	354	354	354	354	354	363	363
35	Bern Township	601	601	679	679	679	679	679	679	679
36	Cumru Township	5,820	5,820	6,111	6,111	6,111	6,111	6,111	6,674	6,674
37	Kenhorst Borough	1,329	1,329	1,361	1,361	1,361	1,361	1,361	1,363	1,363
38	Laureldale Borough	4,286	4,286	4,289	4,289	4,289	4,289	4,289	4,292	4,292
39	Mohnton Borough	267	267	286	286	286	286	286	288	288
40	Muhlenberg Township	13,388	13,388	14,146	14,146	14,146	14,146	14,146	17,014	17,014
41	City of Reading	39,636	39,636	40,885	40,885	40,885	40,885	40,885	43,095	43,095
42	Robeson Township	50	50	55	55	55	55	55	60	60
43	Shillington Borough	284	284	286	286	286	286	286	288	288
44	Spring Township	7,741	7,741	8,054	8,054	8,054	8,054	8,054	8,616	8,616
45	Wyomissing Borough	387	387	399	399	399	399	399	411	411
46	Total	74,060	74,060	76,905	76,905	76,905	76,905	76,905	83,143	83,143
	The EDU Projections are based on the Special Study.									